

NAB disingenuously states that "there appears to be little reason for the Commission to afford any of the present DARS applicants 'protected' status on the basis of the . . . cut-off."¹²¹ Similarly, Cracker hopefully asserts that nothing prevents the Commission from re-opening the cut-off. Contrary to these commenters' self-serving opinions, CD Radio's opening comments demonstrated that as a matter of law the Commission must respect the December 15, 1992, satellite DARS cut-off. The cut-off rule is founded on the bedrock principle, reiterated in this very proceeding, that an applicant deserves "protected status" in order to proceed with certainty through the regulatory process -- most notably the challenge posed by competing applicants -- and execute its business plans.¹²²

Indeed, in navigating a course through the FCC's regulatory shoals, NAB's broadcast station members rely on the sanctity of this guiding light on a daily basis. For the NAB to argue that satellite DARS applicants are not entitled to similar protection is ironic at best.¹²³ The simple fact is that a filing deadline for the service was publicly announced,

¹²¹ NAB at 56.

¹²² *See, e.g., City of Angels Broadcasting, Inc. v. FCC*, 745 F.2d 656, 663 (D.C. Cir. 1984) (quoting *Ranger v. FCC*, 294 F.2d 240 (D.C. Cir. 1961)); Request For Declaratory Ruling Filed by Satellite CD Radio, 9 F.C.C. Rcd 2569, 2571 (1994).

¹²³ NAB at 56. NAB appears to argue that the satellite DARS cut-off offers the applicants no protection because no spectrum was allocated at the time of cut-off. Whatever theoretical merit this view may have in NAB's world of the Mass Media Bureau, it simply is not true here. Under the Commission's standard satellite application cut-off procedures, applications routinely are accepted for filing and afforded cut-off protection before spectrum is allocated to the service. As the FCC has repeatedly concluded, considerations unique to new satellite services justify such a procedure. *See, e.g., Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands*, 9 F.C.C. Rcd 1094, 1098 (1994) (Notice of Proposed Rulemaking); *LEOSAT Corp.*, 8 F.C.C. Rcd 668, 670 (1993); *Low-Earth Orbit Satellites*, 6 F.C.C. Rcd 5932 (1991) (Notice of Proposed Rulemaking); *Land Mobile*

interested parties filed applications, and CD Radio -- in reliance on the continuing vitality of the cut-off -- removed competing applicants, and resolved design, engineering, business, and regulatory issues. As CD Radio documented in its comments, this transcending purpose of the cut-off has constrained the Commission to waive it except in the most narrow, extraordinary and compelling circumstances. No such conditions exist in this case, nor has any commenter made a colorable claim that they do.¹²⁴

NAB also advances the specious argument that the Commission should not recognize any equitable interest in the satellite DARS applicants because they "assumed the risk" of proceeding to develop the service in the face of regulatory uncertainty.¹²⁵ NAB's head-in-the-ground approach would render senseless the entire process of opening a window within

Satellite Service, 2 F.C.C. Rcd 485 (1986) (Second Report and Order); Radiodetermination Satellite Service, 104 F.C.C.2d 650, 652 (1986) (Second Report and Order); Direct Broadcast Satellites, 90 F.C.C.2d 676, 718-19 (1982) (Report and Order).

¹²⁴ NAB's tenuous argument that the Commission has legal authority to vitiate applicants' vested rights by re-opening a cut-off rests on its fundamental misreading of *Neighborhood TV Co. v. FCC*, 742 F.2d 629 (D.C. Cir. 1984). In *Neighborhood*, the Commission adopted *interim* processing procedures for television translator applications prior to adoption of final rules, and a cut-off, to cover the related low power television service ("LPTV"). *Id.* at 632. In response to the interim processing procedures, a number of applications for LPTV facilities were filed that were mutually exclusive with petitioner's earlier-filed translator applications. *Id.* The interim processing procedures also extended by several months the cut-off deadline, thereby allowing additional mutually exclusive applications. *See* Low Power Television Broadcasting and Television Translators, 84 F.C.C.2d 713, 719 (1981). Petitioner's claim on appeal was not that the Commission had re-opened or otherwise vitiated the applicable cut-off, but simply that the filing window had been improperly extended in advance. *Neighborhood*, 742 F.2d at 642. Here, however, the filing window has long since opened and closed, and the applicants have relied heavily on the sanctity of the vested cut-off in going forward with their business plans. Hence, *Neighborhood* is factually inapposite and cannot, in good faith, be relied upon for the proposition that NAB urges.

¹²⁵ NAB at 56.

which competing applicants can file. What point can an application window have, if other applicants can file three years after the window is closed? In fact, the FCC has recognized the value of cut-offs both in satellite service proceedings¹²⁶ as well as in other areas of broadcasting.¹²⁷ To open the cutoff would vitiate this policy and penalize entrepreneurial firms that seek to provide a useful new service to the American public. While that is precisely NAB's anticompetitive and self-serving mission in this proceeding, it is beyond dispute that the public interest in the growth of new communications providers and services would not be served by such punitive action. In this regard, the disinterested comments of Citizens for a Sound Economy Foundation are especially probative:

[Re-opening the cut-off] at this point could discourage future research and investment in new and innovative services. The current applicants have spent the last several years developing DARS technology and working with the Commission to make the DARS service a reality. If new applicants were accepted at this stage, they would, in effect, be able to "free ride" on this investment. By diminishing the rewards for innovation and investment, the Commission would be diminishing the incentive for anyone to make similar efforts in the future.¹²⁸

In support of its strained "no equities" argument, NAB vainly attempts to distinguish FCC licensing decisions for cellular unserved areas and MDS in which the Commission rejected the use of auctions due to the inequitable effect of such licensing procedures on

¹²⁶ See note 123 supra.

¹²⁷ See *Sacramento Community Radio, Inc.*, 8 F.C.C. Rcd 4067, 4068 (1993).

¹²⁸ *Citizens* at 5; see also *AMRC* at 9 (FCC acceptance of new applications will discourage future innovators who will be loathe to file if late-comers can simply copy their ideas); *SBCA* at 8 (same).

existing applicants.¹²⁹ NAB claims that these FCC decisions were based on conditions that are not found here: reliance by the applicants on a licensing scheme other than auctions, concerns over the administrative burdens of a mid-stream change to auctions, and the questionable commercial value of the licenses.

Contrary to NAB's tortured reading of these cases, however, it is plain that these decisions -- and the Commission's underlying statutory authority to reject auctions -- are *expressly* based on considerations of equity that apply with full force to satellite DARS. In the *Cellular Unserved Areas Order*, the Commission noted two equitable considerations: (1) "many of these cellular unserved areas licenses have been on file for more than a year"; and (2) because the applications were filed prior to the effective date of the Commission's auction authority, "these applicants' business plans did not take into account the additional expenditures that they would incur if licenses were to be awarded by competitive bidding."¹³⁰ The Commission noted these same two equitable considerations in the *MDS Order*.¹³¹ Hence, the equitable considerations animating the Commission's decision to refrain from use of competitive bidding in these cases are indistinguishable from those found here: (1) CD Radio has been on file for more than 5 1/2 years (and the other applicants

¹²⁹ NAB at 57-58.

¹³⁰ Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, 9 F.C.C. Rcd 7387, 7391 (1994) ("*Cellular Unserved Areas Order*").

¹³¹ Multipoint Distribution Service, 78 Rad. Reg. 2d 856, 883-84 (1995) ("*MDS Order*").

nearly three years); and (2) the additional cost of obtaining licenses through auctions is wholly contrary to the applicants' long since finalized business plans.

These decisions also considered the "administrative confusion and attendant delays" caused by auctions, concluding in each case that auctions disserved the public interest because they would delay service to the public.¹³² NAB conveniently omits discussion of the delay in service to the public, however, claiming only that the administrative burden of re-opening the cut-off "would be minimal" -- an unsupported assertion that is at odds with common sense and reality, and therefore cannot be taken seriously.

For its part, Cracker refuses even to recognize the strong equities favoring existing applicants, urging instead that the FCC not "focus arbitrarily on the needs of pending applicants."¹³³ This attempt to trivialize CD Radio's \$15 million investment in pioneering, indeed creating, the satellite DARS service underscores Cracker's complete failure to appreciate the history of this proceeding. Without belaboring the point, it suffices to say that CD Radio has expended tremendous efforts and money in clearing a path through a dense forest of technical, regulatory, and spectrum management issues that otherwise would still entangle those hoping to provide satellite DARS service. Cracker now appears at the eleventh hour to claim a "free ride" on the considerable expense of others and at significant detriment to the public in the form of additional delay. For Cracker to suggest that the Commission should disregard these efforts and investment is disingenuous. Cracker's sudden

¹³² Cellular Unserved Areas Order, 9 F.C.C. Rcd at 7392-93; MDS Order at 883.

¹³³ Cracker at 6.

interest and self-professed expertise in satellite DARS should be viewed by the Commission with extreme skepticism.

In any event, both the NAB and Cracker attempt to obscure the fact that the compelling public interest in the prompt commencement of satellite DARS service would be undermined by any attempt to re-open the cut-off. Given the retroactive mischief such action would work on the applicants' settled and reasonable expectations, it is inevitable that applicants would seek to vindicate their rights -- and try to put to productive use their investment -- by challenging the action in court. Unfortunately, the regulatory and legal brouhaha that would ensue would seriously further delay the provision of satellite DARS service to the public.¹³⁴ While NAB would consider this a victory, the general public clearly would not.

Finally, Cracker makes the dubious and conclusory argument that the cut-off should be re-opened on the grounds that four satellite DARS licensees are not enough.¹³⁵ Foregoing economic evidence or analysis, Cracker claims that the traditional radio industry will not constrain satellite DARS licensees. In support of this far-fetched proposition, Cracker points to cable television's position relative to broadcast television. But a more apt analogy is a DBS provider's position relative to cable or broadcast television and other DBS operators. Indeed, satellite DARS competes with the same services and technologies as does DBS: terrestrial broadcasters, cable, other technologies (audio and video cassettes, CDs and

¹³⁴ See AMRC at 10; Primosphere at 10.

¹³⁵ Cracker at 7.

laser disks) as well as fellow satellite providers. Cracker's comparison to the cellular duopoly also is misplaced; unlike cellular, the aural radio services market is characterized by the above myriad alternative providers. As CD Radio showed in its comments, four satellite DARS licensees is ample to both spur terrestrial broadcasters into being better competitors, and to provide sufficient intra-service satellite DARS competition through a diversity of program formats, data rates, and approaches to system design.

V. THERE IS NO RECORD EVIDENCE IN SUPPORT OF DISTRIBUTING THE ALLOCATED SPECTRUM THROUGH COMPETITIVE BIDDING

In its opening comments, CD Radio opposed imposition of auctions in this band. CD Radio noted that all incumbent licensees had already negotiated a mutually acceptable means of sharing the 50 MHz of spectrum made available for satellite DARS, thereby rendering moot any question of mutual exclusivity. In the absence of mutual exclusivity, CD Radio argued that (1) the statute prohibits spectrum auctions; and (2) auctions would be unfair and poor public policy. Indeed, CD Radio noted that auctioning satellite DARS spectrum would be inconsistent with at least four prior decisions in which the FCC has declined to use auctions to allocate spectrum when applicants filed for licenses prior to July 26, 1993, the effective date of the FCC's auction authority.¹³⁶

¹³⁶ See Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, 8 F.C.C. Rcd 7635, 7659 (1993); Cellular Unserved Areas Order, 9 F.C.C. Rcd at 7390-92 (1994); MDS Order at 903; Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands, 9 F.C.C. Rcd 1094 (1994).

*Virtually no commenter favored auction of DARS licenses;*¹³⁷ rather, CD Radio's opposition to auctions finds consistent support in the record both on policy as well as legal grounds.¹³⁸ Not even the NAB, which has been implacably opposed to the initiation of satellite DARS service since this proceeding began, suggests that auctions would be appropriate.¹³⁹ Given that the NAB devoted its entire sixty-three page pleading to attempting to delay, if not prevent, the initiation of satellite DARS service, it is telling that the NAB could not produce a single reason why the spectrum should be auctioned. Indeed, no broadcaster supported auctions for satellite DARS.

Citizens For A Sound Economy Foundation ("Citizens") echoes CD Radio's point that the purpose of spectrum auctions is not to "maximize revenue to the federal government," but rather to "increase the efficiency and speed by which licenses are assigned."¹⁴⁰ Citizens concludes that "[b]ecause all four current applicants can be accommodated in the

¹³⁷ The *only* party supporting auctions is Minority Media. However, Minority Media links its support for spectrum auctions to the granting of an "explicit minority preference," including "a firm commitment to lease channels to minority owned companies." Minority Media at 3. In evaluating Minority Media's request, the Commission should recall that, as a result of *Adarand Constructors, Inc. v. Peña*, 115 S. Ct. 2097 (1995), it has repudiated the use of "race- and gender-based provisions" in the context of the PCS "C block" auction. Competitive Bidding, Sixth Report and Order, PP Docket No. 93-253, Gen Docket No. 90-314, Gen Docket No. 93-252, ¶ 1 (July 18, 1995); *appeal pending sub nom* Omnipoint Corp. v. FCC, No. 95-1374 (D.C. Cir. docketed July 24, 1995). Given that Minority Media's support for competitive bidding is expressly premised on instituting now-rejected minority bidding credits, its support for auctions must fall accordingly.

¹³⁸ See, e.g., AMRC at 12; DSBC at 35; Wertime at 3; Citizens at 4; SBCA at 6.

¹³⁹ NAB at 45-49.

¹⁴⁰ Citizens at 4. See also C-SPAN at 2.

spectrum at issue," auctions will increase neither the efficiency nor the speed of licensing.¹⁴¹ To the contrary, auctions will take spectrum from those parties that are currently prepared to utilize this spectrum promptly to provide service to the public and mire the licensing process in a probable quagmire.

Similarly, the Satellite Broadcasting and Communications Association of America ("SBCA") opposes auctioning spectrum for which there exists no mutual exclusivity, which is a necessary precondition imposed by the Communications Act. SBCA first joins CD Radio and Citizens in cautioning the Commission against using spectrum auctions solely as a means of "gaining revenue for the U.S. treasury."¹⁴² SBCA then points out that instituting a spectrum auction after the incumbent licensees have expended "millions of dollars" in development costs will have a "chilling effect on prospective entrepreneurs engaged in the development of new and innovative technological applications."¹⁴³ Finally, SBCA warns that the costs incurred by satellite DARS providers in purchasing spectrum at auction will be inevitably passed on to customers as a "hidden tax."¹⁴⁴

In sum, the record in this proceeding demonstrates that spectrum auctions for satellite DARS would be unlawful, unfair, and an unfortunate example of public policy. The absence of any record support for auctions further militates against their implementation. Therefore,

¹⁴¹ *Id.*

¹⁴² SBCA at 5.

¹⁴³ *Id.* at 6.

¹⁴⁴ *Id.*

the Commission should grant licenses to the incumbent licensees rather than conduct an auction for which there is no justification.

VI. THE RECORD SUPPORTS FCC ADOPTION OF TECHNICAL RULES THAT ALLOW SATELLITE DARS LICENSEES MAXIMUM FLEXIBILITY TO BETTER SERVE THE PUBLIC

Commenters who addressed technical issues raised in the *NPRM* supported CD Radio's call for rules that are designed to permit satellite DARS licensees maximum flexibility in structuring their service offerings in order to be responsive to marketplace demands.¹⁴⁵ As CD Radio commented, technical rules should reflect the fact that satellite DARS is a new service which must overcome technical and marketing issues that, while no longer barriers to the efficient provision of service, nonetheless counsel against rigid or heavy-handed regulation that might stultify it. Commenters broadly agree with this approach. Nonetheless, a few issues merit brief discussion.¹⁴⁶

¹⁴⁵ AMRC at 20; DSBC at 47; Primosphere at 36.

¹⁴⁶ In addition, the Commission should confirm that consumers may rely on the authorization of a satellite DARS provider and need not obtain any additional license or registration for the receive-only mobile earth stations used to obtain the service. Notably, the receive-only dishes used by consumers to receive DBS are not subject to a licensing requirement nor, for that matter, are other types of receive-only satellite earth stations used for domestic service. See 47 C.F.R. § 25.131(b) (imposing no licensing or registration requirement for receive-only earth stations, but permitting registration for protection from terrestrial microwave stations in shared bands). Indeed, the Commission consistently and for good reason has declined to impose any subscriber license obligation on equipment used to receive subscription services, even where the equipment units also transmit. See, e.g., *id.*, § 22.927 (mobile stations receiving service from cellular system are considered to be operating under the authorization of the system); *id.*, § 22.571 (mobile stations in two-way paging service operate under authorization of serving system); *id.*, § 25.141 (user

First, while one commenter questioned the applicants' proposed link margins, it is clear that debate on the evidence submitted in support of this proposition is neither required nor appropriate in this proceeding. As documented in its prior technical submissions, CD Radio's link margin is more than adequate to deliver CD-quality service to consumers. Although reasonable minds can differ as to the optimal link margin, CD Radio -- like all other satellite DARS providers -- has a compelling incentive to ensure an adequate margin given that its planned nearly half a billion dollar investment would be imperiled if it failed to deliver subscribers high-quality audio.¹⁴⁷ In any event, link margins can and will be strengthened as necessary through the use of terrestrial gap fillers, as discussed below.¹⁴⁸ Hence, any concern over link margins should be directed toward ensuring that the FCC adopts rules that allow licensees to improve their systems, on a flexible basis, with gap fillers.¹⁴⁹

transceivers in radiodetermination satellite service need not be licensed, but are subject to service vendor's blanket license); *id.*, § 95.811(c) (each IVDS subscriber's in-home "response transmitter unit" is authorized under the IVDS system license serving the subscriber).

¹⁴⁷ See DSBC at 47.

¹⁴⁸ See *id.* at 48-49.

¹⁴⁹ In a related vein, one commenter raises the concern that cross-polarization may not provide adequate isolation for re-use during mobile conditions. As with link margins, neither CD Radio nor any other prospective provider has any incentive to operate in a way that would degrade, rather than enhance, service to the public. CD Radio continues to test cross-polarization and, of course, will not use this reuse technique if it proves unworkable.

Second, a scant few commenters express support for federal standardization of satellite DARS receivers.¹⁵⁰ These commenters argue that a standardized receiver will promote consumer acceptance of the new service and facilitate its viability. As indicated in its opening comments, CD Radio favors common receivers among DARS licensees that have implemented systems. All of the satellite DARS applicants jointly have agreed to cooperate in this effort.¹⁵¹ But standards for inter-operability and receiver tunability should be left in the capable hands of affected licensees and manufacturers. The FCC did not mandate compatibility among video DBS providers and, similarly, has never mandated government-imposed receiver standardization in other services such as PCS and LEOs. Since all providers have ample incentives to standardize, the FCC should leave this process to the marketplace. By the same token, formation of an FCC industry advisory committee is not appropriate at this time; the marketplace participants have already begun the work to derive common standards and will continue to do so of their own accord.

Third, the concern expressed by NAB and WFAN-AM that the use of terrestrial gap fillers would "transform the satellite DARS service into a terrestrial-based one" is baseless.¹⁵² In their Joint Comments, the satellite DARS applicants made it abundantly clear that they favor use of gap fillers only: (1) as a means to retransmit the signals of

¹⁵⁰ See, e.g., Comments of CEG/EIA at 7-9 (advocating an industry-developed minimum standard for both satellite and terrestrial DARS transmission to ensure that consumers can purchase full functioning DARS equipment at reasonable prices).

¹⁵¹ Joint Comments at 3-4.

¹⁵² NAB at 61; Comments of WFAN-AM at 1.

operating satellite DARS systems on the same frequency; and (2) as a way to improve the service link margin in difficult propagation environments.¹⁵³ Hence, this is a non-issue that should not distract the Commission from the more important requirement, referenced above, that satellite DARS licensees be allowed to operate terrestrial gap fillers without prior FCC approval or even notification under most circumstances.¹⁵⁴ By reducing the administrative burden of making satellite DARS systems more robust, the FCC will further the public interest in ensuring that all Americans have access to this new aural service.

VII. IN THE EVENT THE FCC AUCTIONS THE 2310-2360 MHz BAND, THE COMMISSION SHOULD AWARD CD RADIO A PIONEER'S PREFERENCE FOR CREATING THE SERVICE AND GENERATING VALUE FOR THE SPECTRUM

For the reasons stated above and in CD Radio's opening comments, the FCC should not auction any portion of the 2310-2360 MHz band in the initial round of processing.¹⁵⁵ However, should the Commission choose to do so, despite the resulting legal challenges and the subsequent further delays in the introduction of DARS, there is no reason to depart from the optimal band plan of four licensees with authority to operate on a nationwide basis with 12.5 MHz each.¹⁵⁶ This band plan is in the public interest regardless of the method of

¹⁵³ Joint Comments at 3-4.

¹⁵⁴ See CD Radio, Appendix E at 7-8.

¹⁵⁵ *Supra*, at 5053; CD Radio at 34-46.

¹⁵⁶ See *supra*, at 35-38; CD Radio at 16-21.

licensing since it is premised on the amount of spectrum satellite DARS licensees need for economic viability.

If auctions are used, however, it is critical that the Commission process the pending pioneer's preference requests of the DARS applicants as it proposed in the *NPRM*.¹⁵⁷ Any pioneer preference that the FCC awards should be simultaneous with a Report and Order in this rulemaking or earlier and thus occur *before* any auctions are conducted. If the FCC confers a preference on any entity, the pioneer should be guaranteed a nationwide 12.5 MHz license, consistent with the band plan that optimizes the potential for the success of satellite DARS as CD Radio has explained earlier. Pursuant to Section 1.402(f) of the Commission's Rules, a DARS pioneer would be obligated to reimburse to the government, in return for its license, an amount equal to 85 percent of the average value of comparable winning bids in the FCC's DARS auctions.¹⁵⁸

There can be no doubt that CD Radio merits the satellite DARS pioneers's preference. The company has detailed its overwhelming case for a preference since 1990,¹⁵⁹ including its 1993 and 1995 *Supplements* to its pioneer's preference request.¹⁶⁰

¹⁵⁷ Because the existing satellite DARS applications were filed before September 1, 1994, the Commission need not institute a "peer review" before granting a preference. *See* 47 U.S.C. § 309(j)(13)(D)(iv).

¹⁵⁸ 47 C.F.R. § 1.402(f) (incorporating the payment formula contained in the GATT legislation, codified at 47 U.S.C. § 309(j)(13)(B)).

¹⁵⁹ *See* Application of CD Radio, Inc. at 39, File Nos. 49/50-DSS-P/L-90, 58/59-DSS-AMEND-90, 44/55-DSS-AMEND-92, PP-24 (filed May 18, 1990).

CD Radio warrants a pioneer's preference for creating both the service and a technology that will allow satellite DARS to be brought to this country inexpensively and rapidly. For over two-and-one-half years CD Radio was the only applicant, and actively forged ahead through the regulatory process -- culminating in this rulemaking -- required to deliver the service to the public. For years, CD Radio tirelessly worked as the sole applicant with the FCC, the Administration, and the aeronautical industry, both nationally and at WARC '92, to identify and create the S-band allocation for satellite DARS.¹⁶¹

In addition to the regulatory pathways blazed by CD Radio before the arrival of other applicants, CD Radio has been responsible for a number of substantial and innovative advancements in DARS satellite system technology:

- ***Development of the world's smallest satellite dish***
In order to meet the size and cost considerations for mobile satellite DARS, CD Radio incurred substantial expense developing its now world famous "silver dollar" sized antenna. Development of this planar array antenna (with radius less than 1" and measuring approximately 0.1" thick) required CD Radio to push the outside of the technological envelope.¹⁶²
- ***Advanced satellite system design***
CD Radio devoted years of time and money to perfecting a satellite spatial and frequency diversity design that reduces the effects of multipath fading, frequency-

¹⁶⁰ See Supplement to Pioneer's Preference Request of Satellite CD Radio, Inc., GEN Docket No. 90-357 (filed June 2, 1993) ("1993 Supplement") (attached hereto as Appendix B); Supplement to Pioneer's Preference Request of Satellite CD Radio (filed Sept. 20, 1995) ("1995 Supplement") (attached hereto as Appendix C).

¹⁶¹ *1993 Supplement* at 7-9. CD Radio actively participated in the ITU-R-10/11S, 2/2 and CITEL.

¹⁶² *Id.* at 15.

selective fading, and certain types of blockage thereby allowing for improved coverage throughout the CONUS.¹⁶³

- ***First advanced mobile satellite DARS receiver***
CD Radio spent a great deal of time and money to ensure that the user interface to its system was functional as well as easy to use. The resulting operational satellite DARS receiver blends the technology needed to decode satellite DARS signals (including the dual channel reception/amplification/down conversion, multiplexing and PAC/digital to analog decoding) with conventional automobile radio features.¹⁶⁴
- ***Compressing digital data with perceptual audio coding***
In order to use the spectrum available for satellite DARS in the most efficient manner, CD Radio worked jointly with AT&T-Bell Laboratories to incorporate a highly sophisticated technique for compressing audio signals into a satellite DARS environment -- "perceptual audio coding."¹⁶⁵

None of CD Radio innovations is speculative. Extensive experimentation and field trials clearly show that CD Radio's innovative advances are technically sound. First, in 1991, CD Radio assembled and tested a satellite DARS system which transmitted CD-quality music via commercial C-Band satellite transponder capacity to a small custom-designed antenna. Later, CD Radio's 1993-95 "real world" tests in the S-Band required CD Radio to design and build a new smaller generation of antenna, embed the antenna in a vehicle, design and construct a prototype receiver, and deploy transmitters at a number of locations throughout the geographic test area.¹⁶⁶ Through these efforts, CD Radio has cleared a path

¹⁶³ *Id.* at 13-14; "Field Test Report: Satellite Digital Audio Radio Service Experiment," to 1993 *Supplement* as Appendix A, at § 3.3.4 ("Experimental Report").

¹⁶⁴ 1993 *Supplement* at 15-16; *Experimental Report* at § 3.3.5.

¹⁶⁵ 1993 *Supplement* at 15; *Experimental Report* at § 3.3.2.

¹⁶⁶ See generally *Experimental Report*; see also "Summary of Experimental Results," attached to 1995 *Supplement*.

for later would-be satellite DARS providers by generating a public, industrial, and financial awareness of the potential benefits of the service.

CD Radio's contributions to the service, technology and regulatory scheme were critical to the apparent near-conclusion of this proceeding. They were also far from costless. CD Radio raised and spent more than \$15 million on its activities to date, and incurred a \$20 million cost increase in its spacecraft construction contract. CD Radio is entitled to equitable treatment for these efforts, both with respect to current DARS applicants and any hypothetical future applicants for the service. A guarantee of a license is, in fact, the minimum equitable way to "play fair" should the Commission choose to change the rules of the game at the last moment.

If the spectrum for satellite DARS is auctioned, then a pioneer's preference of a license for CD Radio is particularly appropriate given that the existing applicants, let alone any parties who now enter to bid, *have gained from CD Radio's efforts and investments that created value in this spectrum*. If CD Radio is now required to remain uncertain about whether it will be licensed and, thereafter, bid in the very same auction, it would, in effect, end up paying again for its own contributions to the value of spectrum that its past efforts and investments have literally created.

Absent a pioneer's preference, CD Radio's incentives to develop satellite DARS over these past five-and-one-half years would be greatly diminished. Had CD Radio known that it would have to confront an auction later, its contributions to increasing the value of spectrum probably would not have been made at all. This result would have been unfortunate, since

otherwise the investments benefitted the public at large. It is neither fair to CD Radio nor in the public interest if the FCC discourages similar activities by future entrepreneurs. The only way to avoid this outcome is to grant CD Radio a pioneer's preference and assure CD Radio a license. This will provide an opportunity to acquire spectrum at the price bid by others (minus 15 percent).

The Commission should also adopt rules that allow the DARS pioneer to pay for the spectrum over a period of five years.¹⁶⁷ An installment plan for the pioneer that reduces its payments during the period within which it would be obligated to construct and launch its first satellite would serve the public interest by facilitating the rapid introduction of satellite DARS.¹⁶⁸ Accordingly, the pioneer would pay interest only on unpaid balances prior to the fifth anniversary of the date 30 days after the award of the license is final and no longer subject to administrative or judicial review.¹⁶⁹ During the installment period, or thereafter,

¹⁶⁷ The FCC's authority to permit a pioneer to make payments for its spectrum in installments is clear. 47 U.S.C. § 309(j)(13)(C) (allowing generally for installment plans for pioneers); 47 C.F.R. § 1.402(f) (same). See NPRM, ¶ 101.

¹⁶⁸ Because a satellite DARS licensee will be required to put *all* its capacity in place before *any* of it can be used by subscribers, an installment period longer than that in PCS is warranted.

¹⁶⁹ On the fifth anniversary, the pioneer would be required to pay the unpaid balance and remaining interest thereon. Section 309(j)(13)(C) leaves it to the Commission's discretion to adopt an installment plan appropriate to the service in which a pioneer's preference has been granted.

there should be no bar to the pioneer engaging in legitimate rounds of financing of its system¹⁷⁰ through further sales of equity.¹⁷¹

VIII. CONCLUSION

The Commission has taken an historic step in proposing rules under which to license satellite DARS. The initial comments on the record in this proceeding contain two sorts of filings. The first type -- the broadcasters --- argues that the sky is falling and that the government must shelter broadcasters from the storm. These pleadings essentially request a government handout -- protection from competition satellite radio allegedly would provide.

The second type -- comments of potential listeners and program suppliers -- make clear the costs of providing such a handout. It is manifest -- indeed, it is hardly challenged -- that satellite DARS would provide additional diversity of audio programming in the form of niche services, provide rural and remote communities with an improved level of service, create new jobs, and maintain U.S. leadership in high technology satellite-related industries. In all, the record could not more clearly favor rapid licensing of DARS providers.

¹⁷⁰ See Request for Declaratory Ruling of Satellite CD Radio, 9 F.C.C. Rcd 2569 (1994).

¹⁷¹ Apart from the prohibition on spectrum aggregation, DARS licenses should generally be freely transferable if required for system implementation financing, even if the transferor received a pioneer's preference, as described above. The receipt of such preferences, unlike the preferences granted to designated entities in the auctions of PCS and other services, is predicated on contributions *already made* by the recipients. In the case of a pioneer, the contribution is the development of an innovative proposal that leads to a new service or the substantial enhancement of an existing service.

For this reason, the Commission should reject the various eleventh hour changes to its licensing approaches. Neither auctions nor re-opening the cut-off are legal or equitable in these circumstances. Indeed, as the Commission has acknowledged, the existing applicants have substantial equities as a result of the long delay in licensing. In particular, CD Radio, whose application has been on file for more than five years, has spent in excess of \$15 million -- and is committed to \$20 million more -- to overcome the high pressure tactics of NAB and its member stations.

The time for indecision and debate is long over. The broadcasters (or any other opponent) bear the burden of proving that a new technology or service is not in the public interest. This, they have utterly failed to do. Accordingly, the Commission should reaffirm its commitment to a new and useful communications service that will meet the needs of the

American public. Thereafter, and hopefully very soon, the FCC should adopt reasonable rules and license qualified DARS applicants.

Respectfully submitted,

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Before the
FEDERAL COMMUNICATION COMMISSION **RECEIVED**
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of:

Establishment of Rules and Policies for the
Digital Audio Radio Satellite Service in the
2310-2360 MHz Frequency Band

IB Docket No. 95-91
GEN Docket No. 90-357
RM No. 8610

Reply Comments of CD Radio

Volume 2 -- Appendices

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- APPENDIX A *Impact of CD Radio & Other SDARS Systems on Traditional Radio Service*, Statement of John L. Peterman, Principal, Law & Economics Consulting Group, Inc.
- APPENDIX B *Supplement To Pioneer's Preference Request*, Satellite CD Radio, Inc. Request for a Pioneer's Preference for Proposed Satellite Digital Audio Radio System, General Docket No. 90-357; PP-24 (filed June 2, 1993).
- APPENDIX C *Supplement To Pioneer's Preference Request*, Satellite CD Radio, Inc. Request for a Pioneer's Preference for Proposed Satellite Digital Audio Radio System, General Docket No. 90-357; PP-24 (filed September 20, 1995)

APPENDIX A

Impact of CD Radio & Other SDARS Systems on Traditional Radio Service

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IMPACT OF CD RADIO & OTHER SDARS SYSTEMS ON TRADITIONAL RADIO SERVICE

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To Accompany

Reply Comments of CD Radio Before The
Federal Communication Commission
Establishment of Rules and Policies for the
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GEN Docket No. 90-357

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